

Application No. **10/575,367**
Art Unit: **3725**

Amendment under 37 CFR §1.116
Attorney Docket No.: **062402**

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended): A security paper comprising at least two fibrous paper plies, wherein each of said plies is a material layer having a fibrous structure comprising fibers,

the first ply being an external ply that includes a first authentication element provided within a region of non-zero thickness of the first ply, said first authentication element comprising at least one of (i) authentication particles, and (ii) authentication fibers different from the fibers of the fibrous structure of the first ply, said first authentication element of the first ply being substantially absent from the second ply, and

the other ply, the second ply, comprising a second authentication element provided within an area of non-zero thickness of the second ply, said second authentication element comprising at least one of (i) authentication particles, and (ii) authentication fibers different from the fibers of the fibrous structure of the second ply,

wherein each of said first and second authentication elements is selected from the group consisting of iridescent particles, luminescent fibers, luminescent particles, fluorescent fibers, fluorescent particles, phosphorescent fibers, phosphorescent particles, colored fibers, colored particles, thermochromic fibers, thermochromic particles, fibers that react to electromagnetic fields, particles that react to electromagnetic fields, and mixtures thereof,

and wherein the second authentication element of the second ply is substantially absent from the first ply.

2-3. (Canceled)

4. (Previously presented): The security paper as claimed in claim 1, wherein the second authentication element of the second ply can be detected optically.

5-8. (Canceled)

9. (Previously presented): The security paper as claimed in claim 1, wherein said second ply comprises a reinforcing element, and said reinforcing element also has an authentication function.

10. (Previously presented): The security paper as claimed in claim 9, wherein said reinforcing element constitutes said second authentication element of said second ply.

11. (Canceled)

12. (Previously presented): The security paper as claimed in claim 1, wherein the fibers of the fiber structures of the plies are cotton fibers.

13. (Currently amended): The security paper as claimed in claim 1, which comprises a third ply having a reinforcing element, wherein the third ply is central and the second ply is another external ply. ~~(original, renaming third as second)~~

14. (Previously presented): The security paper as claimed in claim 1, which is a banknote paper.

15. (Previously presented): The security paper as claimed in claim 1, wherein said plies have been assembled wet.

16. (Previously presented): A process for manufacturing a security paper as claimed in claim 1, comprising assembling said plies wet.

17. (Previously presented): The security paper as claimed in claim 1, wherein at least one of said first and second authentication element is chosen from substances that react to electromagnetic fields of the microwave type.

18-22. (Canceled)

23. (Previously presented): The security paper as claimed in claim 1, wherein at least one of the first and second authentication elements comprises flakes.

24. (Canceled)

25. (Previously presented): A security paper comprising at least two fibrous paper plies, wherein each of said plies is a material layer having a fibrous structure comprising fibers,

the first ply being an external ply that includes a first authentication element provided within a region of non-zero thickness of the first ply, said first authentication element being a watermark, said first authentication element of the first ply being substantially absent from the other ply, and

the other ply, the second ply, comprising a reinforcing element substantially absent from the first ply, said reinforcing element being fibers different from the fibers of the fibrous structure of the second ply, said reinforcing element being selected from the group consisting of synthetic fibers, natural textile fibers, and mixtures thereof,

wherein the reinforcing element is such that the paper has a mechanical strength higher than a mechanical strength of a paper having identical weight in g/m^2 and identical composition except without the reinforcing element.

26. (Previously presented): The security paper as claimed in claim 25, wherein the reinforcing element is chosen from polyester fibers, polyamide fibers, abaca, hemp, flax, Chinook fibers, and mixtures thereof.

27. (Previously presented): The security paper as claimed in claim 25, wherein the reinforcing element is chosen from polyester fibers, said polyester fibers are polyethylene terephthalate fibers, and said polyester fibers are present in an amount of between 10 and 20 parts by dry weight per 100 parts of the other fibers of said second ply.

28. (Previously presented): The security paper as claimed in claim 25, wherein the second ply comprises a second authentication element.

29. (Previously presented) The security paper as claimed in claim 28, wherein said second authentication element is selected from the group consisting of iridescent particles, luminescent fibers, luminescent particles, fluorescent fibers, fluorescent particles, phosphorescent fibers, phosphorescent particles, colored fibers, colored particles, thermochromic fibers, thermochromic particles, fibers that react to electromagnetic fields, particles that react to electromagnetic fields, and mixtures thereof.

30. (Previously presented): The security paper as claimed in claim 25, wherein said external first ply has a thickness substantially greater than that of said second ply.

31. (Previously presented): The security paper as claimed in claim 25, wherein said reinforcing element also has an authentication function.

32. (Previously presented): The security paper as claimed in claim 25, wherein said security paper has a tear index of $10 \text{ mN.m}^2/\text{g}$ or higher.

33. (Previously presented): The security paper as claimed in claim 25, wherein the fibers of the fiber structures of the plies are cotton fibers.

34. (Previously presented): The security paper as claimed in claim 25, which comprises a third ply having an authentication element, wherein the second ply is central and the third ply is another external ply.

35. (Previously presented): The security paper as claimed in claim 25, which is a banknote paper.

36. (Previously presented): The security paper as claimed in claim 25, wherein said plies have been assembled wet.

37. (Previously presented): The security paper as claimed in claim 36, wherein said external first ply including the watermark has been formed on a cylinder-mold machine that includes a watermark wire.

38. (Previously presented): A process for manufacturing a security paper as claimed in claim 25, comprising assembling said plies wet.

39. (Previously presented): The process for manufacturing a security paper as claimed in claim 38, wherein said external first ply including the watermark is formed on a cylinder-mold machine that includes a watermark wire.